MONITORING, VERIFICATION AND EVALUATION UNIT
AGRICULTURAL POLICY REFORM PROGRAM

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APRP

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THE IMPACT ON HORTICULTURAL EXPORTS OF POLICY REFORMS UNDER APRP

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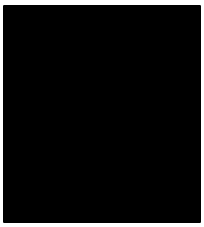

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LIST OF ACRONYMS

ACs	Affiliated Companies
ACDI	Agricultural Cooperative Development International
ALCOTEXA	Alexandria Cotton Exporters Association
APRP	Agricultural Policy Reform Program
ARC	Agricultural Research Center
BOT	Build, Operate, Transfer
CAH	Central Administration for Horticulture
CAPQ	Central Administration for Plant Quarantine
CASC	Central Administration for Seed Certification
CASP	Central Administration for Seed Production
CATGO	Cotton Arbitration and Testing General Organization
CBE	Central Bank of Egypt
CRI	Cotton Research Institute
CSPP	Cotton Sector Promotion Program
EAO	Egyptian Agricultural Organization
FSRP	Food Security Research Program
GOE	Government of Egypt
HC	Holding Company
HEIA	Horticulture Export Improvement Association
HSU	Horticultural Services Unit
IAS	Irrigation Advisory Service
IFPRI	International Food Policy Research Institute
IPM	Integrated Pest Management
MALR	Ministry of Agriculture and Land Reclamation
MD	Managing Director
MPE	Ministry of Public Enterprise
MEFT	former Ministry of Economy and Foreign Trade (former name of MFT)
MFT	Ministry of Foreign Trade
MPWWR	former Ministry of Public Works and Water Resources (former name of MWRI)
MSHT	Ministry of Supply and Home Trade
MTS	former Ministry of Trade and Supply
MVE	Monitoring, Verification and Evaluation Unit
MWRI	Ministry of Water Resources and Irrigation
NTAE	Non-Traditional Agricultural Exports
PBDAC	Principal Bank for Development and Agricultural Credit
PPC	Program Planning Committee
RDI	Reform Design and Implementation Unit
STTA	Short Term Technical Assistance
USAID	United States Agency for International Development

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The conclusions and recommendations of this report are solely those of the authors and the MVE Unit and not the USAID.

PREFACE

Development interventions rest on the premise that some set of actions will lead to a corresponding set of desirable consequences. In current USAID parlance each consequence is termed a "result." Taken together, intended consequences comprise a "results package."

For development activities that are simple and quick, results tend to be fairly evident and easily measured. By contrast, for complex activities that occur over a period of years and have delayed impacts, results are often difficult to judge and may not be visible until long after interventions have ended. In the latter case, interim progress indicators are often all that can be assessed during or shortly after the development intervention. Final impact assessment must be carried out *a posteriori*.

The ultimate measure of success in an export promotion activity is whether there has been an increase in the volume and value of exports attributable wholly or in part to the activity. Volume is important because it suggests whether target markets have expanded, whether the source is competitive, and whether the prospects for further growth are good. Value is important because it captures the total worth of the exports as perceived by the marketplace and because it ultimately determines whether the exporting activity is profitable.

It often takes years of concerted effort to win a significant share of foreign markets for agricultural products, and the resulting growth in volume and value usually occurs gradually over time. During the period of intervention, progress indicators are therefore necessary to judge progress in export development. Typical examples of such indicators for a horticultural export project include: (a) products exported for the first time; (b) new markets penetrated for the first time; and (c) sustainable new "deals" (i.e. trading arrangements involving a supplier, a product and a buyer) established in one season and then renewed for a second one.

Yet success in export development requires not only improvement within the supply chain itself, but also an enabling environment that invigorates and supports the chain. For that reason, interim indicators of positive change in the policy and regulatory environment are also appropriate to assess. In fact, in the case of APRP they are more directly relevant than the kinds of supply chain indicators given as examples in the previous paragraph, because APRP did not aspire to provide support services directly to individual participants in the supply chain, so the linkage between APRP actions and export consequences is relatively weak.

In order to be successful in a globally connected marketplace, exporters must be competitive. The cornerstone of competitiveness for the horticultural producer, exporter, and industry is productivity, which starts at the farm. Exportable yields are at the core of productivity, yet unit costs of production are equally important. Advances in either yields or production costs can be negated farther up the supply chain by losses in quality, condition or marketable volume, as well as unnecessary increases in handling and transport costs or time.

While delivered price and perceived quality are both still critical in horticultural trade, other factors have become important determinants of competitiveness. These include: varieties offered, timing and length of season, consistency of shipments, convenience, alternative packaging and presentation, information regarding nutritional content and modes of utilization, consumer excitement, responsiveness to buyer needs, diversity, "greenness," and willingness to provide promotional or merchandising support.

As Figure 1 suggests, changes in competitiveness for the country as a whole depend on the nature and extent of upgrading that occurs at various levels: enterprise, industry, enabling environment, national policies, and frameworks for international trade. Upgrading can be achieved either through innovation in the products themselves or in the processes used in production, post-harvest handling, processing, transport, and marketing.

This new reality in global horticultural trade complicates the design and evaluation of development interventions, because alternative strategies for competing imply different mixes of policy reforms and supply chain assistance, yet the likelihood of offsetting moves by growers and shippers in other countries makes the ultimate impact of any innovation uncertain.

As this report will document, APRP and other USAID-supported activities sought progress in both the productivity and competitiveness of Egyptian horticulture--particularly export-oriented horticulture—through a variety of policy reforms and technical, marketing and organizational support services. Assessing the actual impact of those innovations was the first challenge of this analysis. Identifying promising future innovations and projecting their future impact was the second challenge.

The specific questions to be addressed include the following:

- What have been the main trends in the Egyptian horticultural sector?
- How have exports performed in terms of volume, value and diversification of products and markets?
- What have been the main determinants of those export trends?
- What role did APRP-supported policy reforms play in the evolution of the sector?
- What effects did those reforms have or are they likely to have on the trends?
- What are the types of intervention and causal linkages that could enhance the competitiveness of Egyptian horticultural exports?
- What are the implications for future policy reforms?


Figure 1: The Pathway to Competitiveness in International Trade
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WTO, FTA's, Preferences
Openness, Pro-export Bias, Sectoral Support
Business, Legal, Regulatory Conditions
Size, Structure, Conduct, Cooperation, Performance
Strategy, Management, Innovation, Human Resources, Organization
Upgrade!
Factor Conditions
Land, Water, Labor, Capital, Technology, Inputs

EXECUTIVE SUMMARY

As part of an on-going liberalization effort, in 1996 USAID and the GOE jointly initiated the five-year Agricultural Policy Reform Program (APRP), led by the Ministry of Agriculture and Land Reclamation. The general objective of APRP was to achieve increased economic growth through policy change in five key areas:

- Open and competitive agricultural markets
- Growth of exports and trade based on Egypt's comparative advantage
- Liberal conditions favoring private investment, including the privatization of GOE-owned enterprises in agriculture and agribusiness
- Increased efficiency and productivity of Egypt's Nile Water System and land resources, including increased effectiveness of public investment in government services such as market information services, research and consumer protection
- Targeted food subsidies that reduce budget expenditures, ease the shock of market reforms for the poorest and stabilize food supplies

Recognizing the key role that horticulture has long played in Egyptian agriculture, as well as the promise of future growth, in late 2001 the MVE Unit decided to conduct an impact assessment on APRP reforms that either concentrated on or affected horticultural exports. Specific purposes were to: 1) document successes in relieving key constraints, whether through the achievement of particular benchmarks or by other means, and 2) to identify and articulate causal chains that could lead to improved export marketing performance in the medium to long run. The present report summarizes findings and recommendations resulting from that assessment, which involved a literature review, analysis of production and trade data, and about 50 key informant interviews.

The assessment team found that horticulture in Egypt is an activity of great importance because it utilizes a significant and increasing portion of arable land, provides employment to millions, offers considerable room for domestic and export expansion, and can generate substantial foreign exchange and income. Advantages include generally higher factor returns as well as greater opportunities for differentiation and value-added than field crops. These benefits notwithstanding, APRP did not give horticulture as much priority as other subsectors, because the policy environment for cotton, maize, wheat, rice, and sugarcane was perceived as more highly distorted and more important to address in APRP's early years. APRP never had an explicit strategy for horticulture in general, much less horticultural export development, yet over time an implicit strategy did emerge. While there were no benchmarks that specifically targeted export horticulture, four did mention fruits and vegetables. APRP's implicit strategy for horticultural subsector development was evident in 9 benchmarks of moderate relevance, plus another 12 that could have some impact on horticulture. Relevant APRP interventions were all cross-cutting in nature, which left out specific potentially important interventions needed by key supply chains. Interventions focused on mitigating perceived constraints rather than creating opportunities, which left out desirable activities relating to preserving or enhancing market access. Most APRP interventions of relevance to horticulture aimed at the efficiency of input markets rather than output markets. The 21 relevant benchmarks were associated with 35 verification indicators, two-thirds of which were

accomplished on time and three-fourths were accomplished either on time or within a year after the specified deadline. Relevant benchmarks that were accomplished or exceeded included:

- Refrigerated Containers (tranche III, benchmark A1)
- Commodity Export Associations and Orgs (III, D2)
- Pesticide and Pesticide Company Licensing (III, D7)
- Research and Extension Rationalization (IV, D4)
- Farm Production Statistics (IV, D7)
- Sea Freight Transport (IV, D8)
- Vegetable Seed Registration (IV, D10)
- Horticultural Modernization (IV, D12)
- Transparency in Trade Data and Agreements (V, D4)
- Public-Private Partnership to Promote Exports (V, D6)
- Vegetable Seed "Variety Screening" (V, D8)
- Transparency in (Trade) Decision-Making (V, D10)

Achievement of the above benchmarks produced some notable results:

- For the first time, licensing of private operators to act as shipping agents or run storage, warehouse, container handling facilities
- Creation of model templates for contract farming arrangements between producers and exporters, or between producers and agents of exporters
- Simplified entry of refrigerated containers, including use of bank guarantees for temporary use of reefers
- Promulgation of regulations regarding Plant Breeders' Rights
- Coordinated inspections at the port of incoming containers
- Updating of pesticide legislation and coordinated protocols for registration and labeling
- Promising pilot tests in 4 governorates of new approaches to technology transfer for export horticulture
- GOE affirmation and ratification of the role of private associations in export promotion
- Establishment and funding of Agricultural Commodity Council (including subcommittees for horticultural crops)
- Design and limited pilot application of a promising new system for farm area estimation, yield forecasting and farm income estimation that could be applied to some horticultural crops in the future.
- Approval to build a new cold storage facility at Cairo Airport
- Simplification and shortening of the process for importing new vegetable seeds
- Establishment of a policy that facilitates the renewal of fruit and other tree crop planting materials, coupled with initial funding
- Improved dissemination of trade statistics over the Internet
- Official GOE support for transparency in trade data, trade agreements and export-related rule-making

In a few instances, these results were measurable. For example, in the pilot tests mentioned, 106 extension agents and 88 were trained in export horticulture. Yet because most activities were more input-oriented than output-oriented, it is not possible to attribute actual changes in volume and value of exports to them. The

assessment team therefore concluded that APRP has not yet had a measurable aggregate impact on Egypt's horticultural exports.

The lack of aggregate impact can largely be explained by: (1) a late start in this subsector; (2) not having an explicit horticultural strategy; and (3) not approaching horticulture as a vertical supply chain. On the other hand, APRP achievements in the seed, technology transfer, transport, institutional development and trade promotion areas may well have some delayed impacts on horticultural exports, which will become evident in the future.

Based on the findings described above, as well lessons learned in horticultural export promotion in other countries, the assessment team suggests the following:

- If there is to be a follow-on activity to APRP, it should include horticulture because of the subsector's intrinsic importance to Egypt and because there is till much to do to "get the policy and enabling environment right" for growth and export development.

- The scope of a follow-on activity should be the development of the entire horticulture subsector, not just export horticulture, because: (a) exports are likely to remain a fairly small percentage of overall volume marketed; (b) upgrading domestic production and marketing solidifies the foundation for exporting; and (c) fresh produce feeds into and complements processed produce.

- The principal challenges to be addressed should be viewed as:

  - Recovering momentum in traditional horticultural exports
  - Continuing expansion in volume, value and diversity of non-traditional exports
  - Better integrating the fresh and processed segments of the subsector
  - Increasing value-added from both domestic and export horticulture through innovations in processes, products, and markets
  - Enhancing small farmer involvement and net income derived from horticulture

- Policy reform that targets horticulture should be viewed not just as a tool for alleviating constraints but also for creating or opening up new opportunities

- An APRP follow-on activity should concentrate on improving the policy and enabling environment for productivity and competitiveness while explicitly recognizing and strengthening ties to technology and market development

.

- The activity should strive to address both horizontal cross-cutting issues and sets of issues that may be critical to a particular vertical supply chain.

- The activity should begin by catalyzing and facilitating the formulation of a long-range strategy and plan for horticultural subsector development, in conjunction with all stakeholders.

Unresolved policy issues of particular importance to horticultural subsector development in Egypt include the following:

- Continued improvement in the tenor, content and frequency of trade-related policy dialogue between cognizant public entities and private organizations, which will accelerate reforms needed for Egypt to be more competitive

- Continued simplification and greater transparency in customs administration, which will lower risks, input costs and transaction costs.

- Official encouragement of the application of bio-engineering and plant breeding aimed at crop protection, yield enhancement, and improved post-harvest traits.

- Final enactment and full implementation of the Seed Law of 1997, which will stimulate more local development of improved planting materials and enable growers to use imported germplasm when foreign markets demand particular patented varieties

- Further development and expanded use of demand-driven systems and methods for transferring technology needed in modern horticulture, which will improve marketable yields, quality and condition

- Improvements in the use of grades and standards (especially sorting by size, quality and condition) that will increase net returns to farmers with a marketable surplus

- Elimination of tariffs on all intermediate goods and services needed for horticultural exporting, which will place Egypt on a more equal footing with foreign competitors

- Removal of disincentives to use domestic truckers for carrying produce destined for export, which will increase local value-added

- Innovations in marketing institutions and practices that will improve price transmission, even out supply peaks, and lower price volatility

- Parity in General Sales Tax treatment for produce destined for export and for the domestic market, which will reduce the anti-export bias of present policy

- Greater frequency, accuracy and diffusion of relevant statistics and other information on matters of production, marketing and trade, which will improve the supply response to both domestic and export market opportunities

1. INTRODUCTION

1.1 Background

Under the USAID-supported Agricultural Production and Credit Project (APCP), during the 1987-1995 period the Government of Egypt (GOE) took various important steps to liberalize agricultural input and output markets. Among others, these measures included the progressive removal of restrictions on farmers' production and marketing decisions, and the beginning of a gradual shift toward a more outward orientation, both of which laid the foundation for Egypt's first non-traditional agricultural export (NTAE) thrust.

Continuing the liberalization process, USAID and the GOE initiated in FY95 the five-year Agricultural Policy Reform Program (APRP), which operated mainly through the Ministry of Agriculture and Land Reclamation (MALR), but also involved the Ministries of Water Resources and Irrigation; Supply and Home Trade; Economy and Foreign Trade; and Public Enterprise.

The general objective[1] of APRP was to achieve increased economic growth through policy change in five key areas, the first four of which were thematically relevant to export horticulture:

- Open and competitive agricultural markets;
- Growth of exports and trade based on Egypt's comparative advantage;
- Liberal conditions favoring private investment, including the privatization of GOE-owned enterprises in agriculture and agribusiness;
- Increased efficiency and productivity of Egypt's Nile Water System and land resources, including increased effectiveness of public investment in government services such as market information services, research and consumer protection; and
- Targeted food subsidies that reduce budget expenditures, ease the shock of market reforms for the poorest and stabilize food supplies

With these policy objectives in mind, various goal-based categories[2] of policy reforms were established. Again the first four of five had some potential relevance to horticulture:

- Prices, Markets and Trade
- Private Investment and Privatization in Agribusiness
- Agricultural Land and Water Resource Investments, Utilization and Sustainability
- Agricultural Sector Support Services
- Food Security and Poverty Alleviation

[1] As clarified in the tranche II Memorandum of Understanding
[2] As re-defined and re-named in the tranche II MOU

Policy reform benchmarks were set for each category. Implementation was tied to deadlines for accomplishment that triggered the release of cash transfers by the U.S. Government to the Egyptian Government in five successive tranches. Deadlines were set as follows: June 30, 1997; June 30, 1998; December 31, 1999; December 31, 2000; and December 31, 2001.

Actual implementation of APRP was entrusted to a Reform Design and Implementation (RDI) Unit. Responsibility for tracking, confirming and measuring results was assigned to a separate Monitoring and Verification (MVE) Unit. This assessment was carried out under the auspices of the latter unit.

1.2 Intent and Purposes of the Impact Assessment

This study was designed to assess the impact of APRP policy reforms on horticultural exports in particular, and on the horticultural subsector in general. The study effort had two specific purposes:

- Document successes in relieving key constraints, whether through the achievement of particular benchmarks or by other means; and

- Identify and articulate causal chains that could lead to improved export marketing performance in the medium- to long-run.

Since APRP benchmarks relevant to horticulture had already been categorized as achieved or not achieved prior to this effort, the assessment was not designed to evaluate GOE accomplishment of benchmarks, but rather to interpret the significance and meaning of what had occurred. The idea was to review the past, understand the present, and then describe the future outlook with and without additional policy reforms or other key changes.

1.3 Methodology

The methodology employed consisted of a literature review followed by structured interviews with key informants.

- First, all relevant publications produced under APRP, the Agricultural Technology Utilization and Transfer (ATUT) project and Agriculture-Led Export Business (ALEB) Project were carefully read and analyzed.

- Next, selected reports produced under other relevant USAID or USDA-supported projects such as AgLink and the Farmer-to-Farmer Program were examined.

- Then, a wide range of relevant GOE, IFPRI, World Bank, IMF, WTO and EU publications was scanned for relevant data and information.

- Finally, more than 50 semi-structured interviews were held with a cross-section of: (a) direct participants in the supply chain (i.e., profit-seeking individuals or entities who grow, process or market horticultural products); (b) indirect participants in the supply chain (i.e., profit-seeking individuals or entities who

provide goods or services that support the process); (c) non-economic actors such as development projects, donor agencies and GOE agencies.

2. APRP BENCHMARKS RELEVANT TO HORTICULTURE

2.1 APRP Horticultural Development Strategy

As explained in Section 1, APRP's highest level categorization of policy reform benchmarks was based on goals rather than subsectors, commodity groups or individual commodities. In that context APRP never had an *explicit* strategy for horticulture in general, nor for horticultural export development in particular. Nevertheless, as horticultural exports began to gather momentum and official support, policy benchmarks specific to horticulture did appear, and cross-cutting benchmarks relevant to horticultural exports also assumed greater importance.

Looking backward, APRP's *implicit* strategy for horticulture included the following elements:

- Strengthening research and extension (in support of horticultural production for export);
- Improving access for Egyptian producers to imported seed (mainly vegetables) and improving the efficiency of the vegetable seed registration process;
- Promoting contract farming, where horticultural exporters contract with smallholders;
- Improving exporters' access to cold storage (allowing private cold storage in airports) and refrigerated containers (reduction of refrigerated truck tariff);
- Reducing transport barriers (enhancement of competition in air cargo) to timely horticultural exports; and
- Strengthening policy advocacy, using associations (HEIA) and the Agricultural Commodity Council.
- Generally speaking, APRP-supported reforms were oriented much more toward input than output markets, and more toward the alleviation of perceived constraints than toward the creation of new opportunities (e.g., through improved market access via trade negotiations).

2.2 APRP Benchmarks of Relevance to Horticulture

In order to better track and understand progress toward agricultural reform, the MVE Unit re-categorized APRP policy benchmarks into 22 different "thrusts," some of them commodity-specific, others more thematic in nature. One such thrust was entitled "horticulture."

However, since this assessment looks specifically at horticultural exports, which involves a supply chain that extends from Egyptian farms to foreign consumers, anything that APRP might have affected in the areas of inputs, technology, production, post-harvest handling, transport, and marketing is potentially relevant.

Some of these economic activities spill over into other MVE-defined policy thrusts such as "seed," "government services-research/extension," "government services-information," "subsidies and taxes," "farmer cost-sharing," and "institutional development-private."

Specific benchmarks for each of the thrusts mentioned above are presented in Figure 2. (Additional detail is presented in Annex Three). A total of 21 relevant benchmarks were identified, all of them created for Tranches III, IV and V. Since some benchmarks were complex or long enough to merit multiple indicators, there were actually 35 associated verification indicators.

2.3 APRP Accomplishments with Respect to Relevant Benchmarks

MVE research determined that full accomplishment was "exceeded" for 4 of the 35 indicators, that 19 indicators were "accomplished," that 9 were "partially accomplished," and that 3 were "not accomplished." That means that 11% of the indicators were exceeded, 54% were satisfied fully, 26% were partially satisfied and 9% were not accomplished. Looking at it another way, benchmarks were met or surpassed in 23 of 35 instances, i.e., about 2 of every 3. "No progress" was made in about 1 of every 10 cases.

If another verification exercise had occurred a year after the official deadline for each tranche, the assessment team estimates that another 4 benchmarks relevant to horticulture would have been classified as "accomplished," raising the apparent success rate to 77%, based on 27 out of 35 indicators.

In any event there is no obvious pattern to the apparent successes, nor to the apparent failures. While much was accomplished in key areas such as technology generation and transfer, seed policy and legislation, transport policy and regulations, and public versus private roles and organization, results were less than perfect in all areas.

In order to better explain what has happened so far and what is still needed, a brief overview of the subsector is presented next.

Figure 2: APRP Benchmarks Relevant to Horticulture	
Benchmarks (Tranche, Number)	**MVE Determination**
Prices, Markets and Trade	
Refrigerated Containers: The GOE will adopt and implement simplified procedures to facilitate entry of refrigerated containers (reefers) for use in exports of fruits and vegetables (III, A1)	Accomplished
Agriculture Sector Support Services	
Contract Farming: The GOE will adopt and implement a policy for contract farming to protect both farmers and contracting firms (III, D1)	Partially Accomplished
Commodity Export Associations and Organizations: The GOE (MoTS) will revise its policy to work with private trade and industry associations in addition to private firms. This will channel GOE support and information to private trade or commodity associations and organizations to promote Egyptian exports.(III, D2)	Accomplished
Plant Breeders' Rights: The GOE will issue: 1) regulations and procedures on Plant Breeders' Rights in accord with relevant Uniform Performance of Variety (UPOV) convention; and 2) regulations for exclusive release of new seed varieties and inbred lines to private companies and cooperatives. These regulations will include a competitive bidding process with safeguards to ensure that one firm cannot gain access to a large percentage of new seed varieties. (III, D4)	First indicator fully accomplished; second partially accomplished; third fully accomplished
Draft Seed Law of 1997 Enactment: The People's Assembly will enact the draft Seed Law of 1997. (III, D5)	No progress as of deadline
Pesticide and Pesticide Company Licensing: The GOE will revise and reissue open and transparent regulations to register pesticides and will issue regulations to license pesticide companies and applicators. (III, D7)	All three indicators accomplished
Support of Private Sector Research and Extension: The MALR will implement a phased plan for support and/or transfer of specified research and extension activities to the private sector. The plan will include at least: a) specification of the research and extension functions which the public sector will enable the private sector to provide in one pilot governorate; b) administrative and management structures and rules to ensure MALR inspection, certification, licensing and quality control for services and information offered by the private sector. (III, D8)	Partially accomplished

Figure 2: APRP Benchmarks Relevant to Horticulture (continued)	
Benchmarks (Tranche, Number)	**MVE Determination**
Agribusiness Advisory Councils: GOE will ensure that the private sector membership on the agricultural/agribusiness advisory councils comes from private sector industry/commodity groups (IV, D1)	First indicator partially accomplished; exceeded full accomplishment on second indicator
Airfreight Transport: To increase the volume and value of Egyptian exports of agribusiness products, the GOE will introduce appropriate improvements in regulations and procedures affecting Egyptian international airports that will enhance competition in the provision of air cargo-handling services at Egyptian airports.(IV, D2)	No progress as of deadline
Airport Terminal Cold Storage: GOE will allow privately operated cold storage services using free market pricing to operate within the Customs area at all international airports in Egypt. (IV, D3)	Partially accomplished
Research and Extension Rationalization: The GOE (MAIR) will develop and approve a new policy mandating extension officers to undertake tasks that respond directly to the needs of stakeholders in the agricultural production, marketing and processing economy. (IV, D4)	Both indicators accomplished
Farm Production Statistics: The GOE (MALR) will collect, manage and distribute agricultural data and information on farm production and income at the farm and national levels to meet the private and public sector needs. (IV, D7)	First indicator accomplished; exceeded full accomplishment on second
Sea Freight Transport: The GOE will coordinate import inspection procedures for refrigerated foodstuffs (radiation, GOEIC, agriculture, health and veterinary). (IV, D8)	Exceeded full accomplishment against first indicator; second indicator accomplished
Truck Transport Regulations: The GOE will improve exports of horticultural products through improving the capacity of local refrigerated trucking industry by reducing tariff on imported refrigerated trucking equipment.(IV, D9)	First indicator partially accomplished; no progress on second indicator
Vegetable Seeds: The GOE will simplify its requirements for registering new varieties of vegetable seeds and abolish registration requirements for the import and trade of vegetable seeds already registered or protected in countries belonging to the OECD. (IV, D10)	First two indicators partially accomplished; third was accomplished

Figure 2: APRP Benchmarks Relevant to Horticulture (continued)	
Benchmarks (Tranche, Number)	**MVE Determination**
Horticultural Modernization: The GOE (MALR) will establish a policy for the renewal of the stock of fruit and other tree crop planting materials in Egypt. (IV, D12)	Exceeded full accomplishment against first indicator; second indicator accomplished
Registration Procedures for Pesticides: The GOE (MALR and Ministry of Health) will establish coordinated protocols for registration and labeling of pesticides. (IV, D13)	Partially accomplished
Transparency in Trade Data and Trade Agreements: The GOE (MEFT) will establish a policy to publish Egypt's trade agreements and disseminate monthly bulletins of disaggregated, product-by-product trade data. (V, D4)	All three indicators accomplished
Public-Private Partnership to Promote Exports: The GOE (MEFT) will direct funds to private associations to help finance activities related to the development of Egypt's competitiveness in exports. (V, D6)	Accomplished
Vegetable Seed Variety "Screening": The GOE will permit the import of sample vegetable seeds for multi-location trials under farmers' conditions. (V, D8)	Accomplished
Transparency in Decision-Making: The GOE (MEFT) will issue a decree that requires the discussion of foreign trade draft regulations with stakeholders before the issuance of the regulation. (V, D10)	Accomplished

3. OVERVIEW OF THE HORTICULTURAL SUBSECTOR

3.1 Historical Growth Trends

According to MALR figures, the area cultivated (i.e., not counting multiple crop cycles in a given year) with vegetables rose 106% from 304,000 to 627,000 feddans between 1965 and 1995, while that for fruits rose 487% from 178,000 to 1.045 million feddans[3]. Of the estimated 13.03 million feddans harvested (i.e., accounting for multiple cycles) in 1998, just under 20 percent involved horticultural crops. Vegetables predominated at about 1.67 million feddans (partly because the same area can produce 2-3 crop cycles for many vegetables), but fruits were almost as important at 1.06 million feddans[4]. There were also very small but expanding areas devoted to herbs, spices, medicinals, aromatics, and ornamentals. Since the cultivated area for all crops rose just 37% between 1965 and 1995, and the cropped area rose just 32%, a significant portion of this growth in horticulture came from displacement of other crops.

Figure 3 presents area harvested over time for selected crops, as reported by FAOSTAT. For the items shown, which represent the bulk of edible horticultural crops, overall area seems to have risen 37% during this ten-year period. It is likely that this growth reflects both increased farming area devoted to horticultural crops and an increase in cropping intensity, both occurring in response to perceived profitability as compared with cereals or other alternatives. Area harvested for every item except potatoes and pears seems to have increased.

Figure 3: Area Harvested for Selected Horticultural Crops in Egypt (1991-2001)

feddans	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beans, Green	32250	30057	29762	30952	40112	49443	46079	35943	46067	51729	51624
Broad Beans, Dry	326060	425074	297052	374067	294752	329462	355152	385064	318707	270643	333833
Broad Beans, Green	548	560	571	560	571	583	595	607	619	619	619
Cantaloupes&oth Melons	55905	50000	42857	40000	40883	54462	47619	45238	57143	84524	84524
Carrots	9090	8202	9621	10410	11314	10102	12229	11762	10690	10921	9407
Cucumbers and Gherkins	37007	37776	35714	36905	38095	39286	42857	44048	45238	45238	45238
Dates	64286	65357	53021	61076	61076	64990	66667	78571	76133	69005	76190
Grapes	37274	57921	58392	49329	49183	49961	50590	52174	59342	59765	61797
Onions, Dry	29000	32005	35005	26000	40874	45933	36429	72200	82779	68095	60667
Oranges	205590	234752	231095	213040	204581	200421	204136	200081	222262	208819	215919
Peaches and Nectarines	29919	40000	50000	60714	69048	77381	84845	82519	86002	77917	80564
Pears	15912	17969	15595	14286	13336	12731	11624	9576	10902	9936	10274
Potatoes	210162	184336	178571	154236	292948	309452	196574	211545	184912	180810	180952
Strawberries	3795	3690	3762	3929	4060	4707	5774	5407	6402	6383	
Sweet Potatoes	11226	8862	13057	14669	15124	15193	20150	22371	25048	23919	238333
Tang.Mand.Clement.Satsma	48836	76450	76405	54238	69133	68514	71536	78252	76190	78571	78571
Tomatoes	328117	362019	351064	353619	355576	412267	401490	422007	450979	465343	450243
Watermelons	102498	72557	76190	95238	122424	100100	149683	129724	160402	161643	144145
Total	1547474	1707588	1557737	1593267	1723090	1844990	1804028	1887091	1919818	1873879	2122902

[3] MALR, *The Strategy of Agricultural Development Until the Year 2017* (draft), Cairo, 2000.
[4] DAI-Abt Associates, *Assessment of the Competitiveness of Egyptian Agriculture* (draft), Cairo, 2002.

Figure 4, also based on FAOSTAT data, reports a 47% increase in overall production of the most important edible horticultural crops between 1991 and 2001. The top three categories in 1991 (tomatoes, potatoes, and oranges) were also the top three in 2001. Watermelons almost overtook oranges. A near-doubling of date production moved it into fifth place. Many categories experienced above average growth rates, and only one was reported to have declined in production volume.

Figure 4: Production of Selected Horticultural Crops in Egypt (1991-2001)

Metric Tons	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beans, Green	147628	128832	106000	127000	165067	201797	219527	179410	200021	201628	221893
Broad Beans, Dry	466000	382000	438000	357000	392300	442394	476252	523129	307083	353909	439480
Broad Beans, Green	2200	2250	2200	2200	2250	2300	2350	2400	2450	2450	2450
Cantaloupes&oth Melons	462831	401000	340000	345000	350842	525913	546814	467421	560000	850000	850000
Carrots	93127	89774	104733	118333	130987	108760	137627	129450	122113	128214	116045
Cucumbers and Gherkins	250299	270310	247000	248000	250000	253000	255000	258000	260000	260000	260000
Dates	603490	603652	631290	646039	677934	738147	740838	839805	905953	1006710	1102350
Grapes	526716	658061	726082	707049	739478	943702	867905	957734	1009560	1075100	1117960
Onions, Dry	556000	606000	742000	481000	386345	447734	396132	722672	889797	762993	652940
Oranges	1624238	1771457	1324170	1513050	1555024	1613256	1522098	1441652	1636600	1610520	1713720
Peaches and Nectarines	52381	105000	159000	213000	267000	321000	376969	429853	301191	240193	249232
Pears	44028	92925	80000	65000	54272	57917	56630	41391	38336	51641	51641
Potatoes	1786057	1618650	1600000	1324649	2599100	2626021	1802761	1984013	1808890	1783640	1800000
Strawberries	25200	25000	27000	32000	36994	45938	52321	53684	70612	69106	
Sweet Potatoes	127520	89815	142929	152262	165016	147629	190323	225560	253053	275936	276000
Tang.Mand.Clem.Satsuma	267734	340733	205337	250089	411134	448709	434554	421811	511755	481182	420000
Tomatoes	3795987	4693985	4762570	5010682	5034197	5995411	5873441	5753279	6273760	6785640	6579910
Watermelons	893899	711307	714000	923000	1199813	1126560	1735448	1409405	1670320	1785280	1730480
	11725335	12590751	12352311	12515353	14417753	16046188	15686990	15840669	16821494	17724142	17584101

The data also indicate that horticulture is gaining in terms of contribution to sectoral output. This is not surprising because horticultural crops typically generate a higher gross value/feddan and value-added/feddan than other crops. CAPMAS data on the total value of crop production in current LE terms between 1982 and 1999 show a dramatic increase in the share of fruits (from 11% to 22%), a modest increase for ornamentals/medicinal (from 0.4% to 1.1%), and a slight decline for vegetables (from 17.9% to 17.6%)[5]. Although the share of value for vegetables peaked at 23% in 1987, planting reductions in the latter part of the 1980s seem to indicate that for certain years the relative profitability of other crops provided incentives to switch out of vegetables.

Figure 5 summarizes annual export volume and value throughout the 1990s. In an increasingly global marketplace it was reasonable to expect that the upward trend in available supply of fresh horticultural products would have led to corresponding increases in exports, yet in the aggregate that did not happen for Egypt. In fact, the total volume of fresh produce exports for the year 2000 was equivalent to just 2.7% of that year's production volume.

There appear to be various explanations. First, Egypt did experience fairly fast population growth (just over 2%) in the 1990s, which would lead to some increase in domestic consumption even if all else remained the same. Secondly, increases in per capita GDP for an economy in Egypt's stage of evolution generally lead to increased consumption of fruits and vegetables, because fresh produce has a relatively high income elasticity of demand. Yet unfortunately the main explanation in this instance seems to be a third factor, which consisted of two external shocks that adversely affected two traditional horticultural export crops: citrus and potatoes.

[5] Ibid.

Figure 5: Egyptian Exports of Fresh Fruits and Vegetables

Fruit + Vegetables -05 Exports - Qty (Mt)	Year									
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Egypt	487,772	519,768	509,413	416,997	711,371	696,013	507,334	721,288	539,252	444,242

Fruit + Vegetables -05 Exports - Val (1000$)	Year									
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Egypt	161,579	162,238	141,067	119,918	206,799	174,123	140,453	184,326	134,465	122,036

Source: FAOSTAT

Figure 6: Egyptian Orange Exports (kg) to Major Markets (1990-2000)

COUNTRY NAME	90	91	92	93	94	95	96	97	98	99	2000	AVERAGE
BELGIUM	3479065	1380160	33455	1746120	704619	562555	20095			93912	1392121	1045789
FEDERAL REP.OF GERMANY	12327146	132650	371095	131813	16320	42180	42206	1561085		19190	450279	1509396
FINLAND	351630	1014500	588040	370310	253940	44470	476500	45840		36010		353471
FRANCE	652000	4459144	4873345	1644051	139508	546970	285967	436855	55032	83220	66765	1203896
KINGDOM OF SAUDI-ARABIA	14570462	13099979	18668805	4669448	4256879	6078611	6319255	1764329	1789811	37587467	56623645	15038972
NETHERLANDS	3287435	7377786	3990791	1126902		4822109	16300	451878	522204	1518102	800251	2391376
QUATAR	77263	168053	435640	120797	422688	47728	19000		291402	1456548	727426	376655
STATE OF KUWAIT	231926	31150	777939	365675	898039	40972	367010	246940	293912	1109660	1042608	491439
U.S.S.R	84663549	59526595	22629471	23283757	8791200	11528253	12436072	19117240	3056900		479840	24551288
UNITED KINGDOM	8256714	13517601	14024975	15874479	7234281	7906591	12378827	5601072	7874198	7605236	9327714	9963790

Source: CAPMAS Statistical Year Book Different Issues
Egyptian Export Promotion Centre

As Figure 6 reveals with respect to citrus, when the Soviet Union collapsed between 1991 and 1992, Egypt rapidly lost its largest horticultural export market. Although a downward trend had actually started in the late 1980s, the decade still opened with Egyptian fresh orange exports at about 145,000 MT, with a value of some $49 million. By 1993 they had fallen to a new equilibrium level of about 56,000 MT, worth just $17 million. Saudi Arabia was also a strong market for Egypt in the early 1990s, then contracted suddenly as well, finishing the decade at a level just 40% as large as at the start. Facing a worldwide glut of citrus, Egyptian exports have still not recovered.

As far as potatoes are concerned, the main market at the start of the 1990s was the European Union, which then absorbed more than 75% of Egypt's fresh potato exports. Ten years later, however, EU countries accounted for just 63% of Egyptian potato exports. Worse still, total Egyptian exports of fresh potatoes fell 17% between 1990 and 2000, so the 63% share was calculated against a smaller total volume than the 75%.

The basic problem was potato brown rot, caused by the bacterium *Pseudomonas solanacearum* (later called *Ralstonia solanacearum*). Although it has existed for many years in both Egypt and Southern Europe, generally it had been kept under control until a major crisis occurred in the European potato industry in the mid-1990s, the effects of which hurt Egypt severely. Since such a crisis has policy implications, it is worth summarizing the sequence of events:

Figure 7: Key Events in the Potato Brown Rot Crisis

- 1960-1995: Occasional outbreaks of potato brown rot occur in southern EU countries
- Early 1990s: Isolated outbreaks of potato brown rot occur in Belgium, the UK and Holland
- 1994-5: Several outbreaks of bacterial wilt in tomatoes in France
- 1995: Several instances of rotting tubers occur in Italy and Portugal,
- Late 1995: Holland discovers brown rot in both seed and ware potatoes
- 1995: Emergency EU legislation seeks to limit spread, especially in seeds
- 1996: Brown rot outbreaks occur in Spain, and the UK intercepts brown rot in Dutch seed potatoes
- 1996: Renewal of EU emergency legislation, including requirement that exported product come from pest-free areas, a rule that is applicable to Egypt
- 1996/97: More than 100 interceptions occur on potato imports from Egypt
- 1997: The EU issues a Community Control Directive on *P. solanacearum*
- 1997: New testing system for export potato crop is adopted by GOE authorities
- 1997/98: About 40 interceptions from Egypt occur, suggesting some progress
- August 1998: The EU bans imports of Egyptian potatoes, then lifts it for pest-free areas only
- 1998/99: New EU stipulation that 5 interceptions from Egypt would block imports
  April 1999: EU interceptions of Egyptian potatoes reached 52, so the ban is re-instated, but season runs from January to April, so not much impact is felt that year.
- 2000: The EU ban for Egypt goes into effect once again, except for exempted pest-free areas

As Figure 8 reveals, initially the brown rot problem actually boosted Egyptian exports, as England, France, Italy and Lebanon all dramatically increased potato imports from Egypt in 1995 and 1996. Egyptian potato exports in 1995 amounted to a record 419,000 MT, valued at $102 million. Volume and value were almost as high in 1996.

Figure 8: Egyptian Potato Exports (kg)

COUNTRY	90	91	92	93	94	95	96	97	98	99	2000	Average
ARAB EMIRATES	893662	787905	995080	498850		2145819	198074	880275	406632	1200060	2143500	1014986
FRANCE	7151920	11056475	7647865	6087025	668075	25614970	23732825	1710952	869000	15340	19689	7688558
ITALY	1153000	1804000	1389600	3923288	1653275	32170496	36886770	18537316	18388800	33040306	37726450	16970300
JORDAN	770325	165800	1608180		20000		35720	139950	156000		108014	375499
SAUDI ARABIA	20700984	28982278	35617420	9801157	5714145	4164876	257360	1858184	281560	446400	116700	9812824
LEBANON	3278740	3382240		17744181	18359338	50486253	32900750	33546197	32629756	29783331	32824900	25493569
NETHERLANDS	610475	1031720	6860170	276490		860805	4237480	1224800	2932430	3661260	3121640	2481727
QATAR	324400	352038	567914	15000	291392	410795	50000	40000	134030	17584	20000	202105
KUWAIT	4559313	289800	3472142	1593608	3293301	3725686	1768252	2778132	2938354	2093642	4098921	2782832
UNITED KINGDOM	86611185	95591282	71080000	68882320	57954530	101360735	89877353	64788851	55628169	46995917	24847134	69419771
	126054094	143443629	129238463	108822012	87954150	220940530	189944680	125504754	114364829	117253939	105028948	136242169

Source: CAPMAS Statistical Year Book Different Issues

Egyptian Export Promotion Centre

Yet after the imposition of the EU controls described in Figure 7, by 1997 Egyptian exports fell back to more routine levels of about 233,000 MT, worth about $41 million. In the year 2000 they reached a new low of just 48,464 MT, valued at just $7.7 million. For purposes of this assessment, the main point is that Egypt's collective inability to devise an effective mix of policy and technical responses to the brown rot challenge appears to have decimated a once vibrant fresh potato export business.

Although the sudden and unforeseen contraction in the Soviet Union citrus and EU potato deals had a major impact on the level of Egyptian exports of fresh produce for years afterward, and in fact is still being felt, from 1997 onward the data do begin to reflect a more positive development: the emergence of non-traditional agricultural exports such as medicinal plants, table grapes, strawberries and fine beans. Some of these will be discussed in more detail below.

Yet the incidence of these new export crops on overall volume was negligible in the 1990s, and their impact on overall value was only starting to be felt as the new millennium began. Cut flowers and other ornamentals barely show up in the export statistics for the last decade.

Meanwhile, as Figure 9 indicates, the Egyptian processed food industry began to show some dynamism in terms of export performance. In the aggregate, a 155% increase in the export volume of processed foods occurred between 1996 and 2001. Subsumed within that was a 202% increase in export volume for products derived from fruits and vegetables. While the latter accounted for about 75% of total processed food exports in 1996, the share had risen to almost 90% by 2001.

Figure 9: Exports of Selected Processed Foods by Volume (1996-2001)

	1996	1997	1998	1999	2000	2001
Metric Tons						
Frozen Vegetables and Fruits	14362	17387	19840	20686	31270	41803
Dehydrated Vegetables	21619	21570	18871	21110	45842	49995
Fruit and Vegetable Juices and Concentrates	2389	2319	1911	3520	4744	10438
Jams and Preserves	461	5746	271	1140	2676	1442
Canned & Glass Packed Vegetables	3992	4209	3972	9256	10756	25734
Subtotal	42823	51231	44865	55712	95288	129412
Dairy Products	3011	3080	2163	7698	3328	3757
Processed Meat/Fish Products	3221	3171	2186	1583	1139	1833
Biscuits, Confectionery Products, Pastries	3959	3372	3949	12434	3018	5872
Dry Blends, Soup Mixes, Bouillion, Sauces	3667	2743	1215	1586	1536	3508
Total	56681	63597	54378	79013	104309	144382

Source: USAID CAD based on ALEB data

Throughout this period, dehydrated vegetables were the leading category, but frozen vegetables and fruits almost closed the gap by 2001. Moreover, the growth rate in canned and glass-packed vegetables was so fast that it too might catch up in a few years. Happily, there were increases in all categories.

Figure 10 reveals corresponding trends for export value, with some notable differences. The overall value of processed food exports rose 83%, while that of products derived from fruits and vegetables rose 90%. That means that unit prices for all categories fell on the average, but unit prices for the horticulture-based products generally fell more than the others. This is consistent with conventional wisdom about rising global competition in horticulture-based food products and/or with the need to lower prices to penetrate new markets and/or emphasis on lower-priced items.

Figure 10: Exports of Selected Processed Foods by Value (1996-2001)

	1996	1997	1998	1999	2000	2001
US$1,000						
Frozen Vegetables and Fruits	11103	18000	16970	14477	17093	19539
Dehydrated Vegetables	26148	22519	22226	22615	36878	37181
Fruit and Vegetable Juices and Concentrates	2486	2168	2067	2846	3612	5374
Jams and Preserves	532	5167	329	883	2235	1100
Canned & Glass Packed Vegetables	838	4277	1979	4495	6202	14957
Subtotal	41107	52131	43571	45316	66020	78151
Dairy Products	4490	4437	3567	16374	5669	5520
Processed Meat/Fish Products	149	6343	4200	2457	2089	2705
Biscuits, Confectionery Products, Pastries	4734	4178	4359	3377	3526	7372
Dry Blends, Soup Mixes, Bouillion, Sauces	1686	2743	1215	4953	5206	1869
Total	52166	69832	56912	72477	82510	95617

Source: USAID CAD based on ALEB data

All but one of the categories based on horticultural products showed a sharp decline in value per metric ton. For frozen fruits and vegetables, there was a drop from $773 to $467. For dehydrated vegetables the change was from $1,209 to $744. For juices and concentrates, the decline went from $1,040 to $515. For jams and preserves, the drop was from $1,154 to $763. On the other hand, the change for canned and glass-packed vegetables was positive, from $210 to $581. Since many factors combine to create such results, it is risky to draw firm conclusions. Yet it does seem that on the one hand, devaluation since 2000 have spurred export growth for processed food, while on the other hand, there has been severe price pressure as Egyptian processors have sought to expand their markets. The need to become more competitive has become evident even before Egypt's protective tariffs on imports fall in 2005 under WTO.

Combining the data from earlier figures, it is possible to generate a rough estimate of Egypt's overall exports of produce-based products, both fresh and processed (figure 11). (Since cut flowers and ornamental plants are still small, they would probably not change the total by more than $5 million).

Figure 11: Exports of Fresh and Processed Horticultural Products by Value (1996-

	1996	1997	1998	1999	2000
US$1,000					
Fresh Fruits and Vegetables	174123	140453	184326	134465	122036
Processed Food Derived from Produce	41107	52131	43571	45316	66020
Subtotal	215230	192584	227897	179781	188056

Source: USAID CAD, FAOSTAT

Although this table gives the impression that horticulture-based exports have actually stagnated, that is probably not a fair description of the underlying trend. Once the potato and citrus problems are separated out, total exports of fresh and processed horticultural products appear once again to be increasing, especially in the last few years. Partial data for 2001 for both categories indicates good growth, so the 1996 level was probably matched or surpassed already.

3.2 Product Mix

Egypt can and does produce numerous different horticultural crops, both edible and ornamental. More than forty commercially-traded fruit and vegetable types were identified in

the course of this assessment, as well as dozens of cut flowers, ornamental plants, foliage crops, medicinal plants, herbs and spices.

For the domestic market, the most important edible horticultural products include: tomatoes, potatoes, oranges, watermelons, onions, mandarins, dates, dry beans, mangos, garlic and sweet potato. Lettuce and table grapes are probably rising in share as incomes rise and they become more available. For export, the most important edible items include: potatoes, oranges, table grapes, strawberries, bobby beans, fine beans, melons, mangos and both storage and green onions.

Egypt's principal spices, herbs and medicinals include: anise, fenugreek, sweet basil, black cumin, licorice, fennel seed, coriander, dill, and peppermint. Egypt is also renowned for its herbal teas, especially chamomile, *karkade* and rose geranium.

In the case of ornamental horticultural products, hard data are lacking, but it is evident that local nurseries offer many different flowers (e.g. roses, spray carnations, Gypsophila, Eustoma and Limonium latifollum) and also many ornamental plants (e.g. hibiscus, Philodendron, Schlefflera, Ficus, Impatiens, Euonymus, Dieffenbachia, Dracaena, Begonia, Calathea, and cane plants). All of these items are exported to some extent, but ornamental exports are so new that it is difficult to identify winners

3.3 Non-Traditional Crops

Although the focus of this assessment is on APRP, in the horticultural export arena USAID support has actually been channeled much more directly through the Agricultural Technology and Utilization (ATUT) Project[6], which in turn was closely linked to MALR support for this subsector. Since APRP always tried to take ATUT advice into account when designing policy reforms affecting export horticulture, and also worked with ATUT's principal client HEIA in trying to get them implemented, it is important to understand the scope of ATUT involvement.

ATUT was set up essentially to give horticultural exports a boost through a flexible mix of technical assistance, training and financial support. After a scoping down exercise that considered both domestic supply and international market conditions, a long list ("Level I Crops") of promising crop-market combinations (called "deals" in the produce industry) was created, which included artichoke, cherry tomato, fine green bean, green onion, mango, strawberry, table grape, and cut flowers. However, as the project progressed and resource limitations became evident, efforts were focused on just two of the Level I crops: table grapes and strawberry.

As Figure 12 indicates, production of both items reportedly has risen in the last five years: 50.5% (23,200 MT) for strawberries and 28% (192,000 MT) for table grapes.

[6] Litschauer, John. *An Evaluation of the Agricultural Technology Utilization and Transfer Project*, RONCO, November 2001.

Figure 12: Egyptian Production of Strawberries and Table Grapes (1996-2001)

	1997	1998	1999	2000	2001
MT					
Strawberries	45,938	52,321	53,684	70,612	69,106
Table Grapes	867,900	957,700	1,009,600	1,075,100	1,117,900
Total	913,838	1,010,021	1,063,284	1,145,712	1,187,006

Source: FAOSTAT

As figure 13 shows, exports of these two leading NTAE crops have begun to gather momentum. Between 1997 and 2000, strawberry exports rose 119% by volume, while exports of table grapes rose 194%.

Figure 13: Egyptian Exports of Strawberries and Table Grapes (1996-2001)

	1997	1998	1999	2000
MT				
Strawberries*	1,704	2,028	2,135	3,738
Table Grapes	1,823	2,597	3,435	5,361
Total	3,527	4,625	5,570	9,099

Source: ATUT *For strawberries, production and marketing begin prior year

In neither instance do exports yet represent a significant percentage of overall domestic production. For the year 2000, the latest year for which both production and export data are available, strawberry exports represented just 5% of Egyptian production, while table grape exports represented just 0.5%.

In 1999/2000 ATUT began devoting attention to another two export deals: melons and fine green beans. In the case of melons, although FAO data indicate that Egypt harvested some 35,000 hectares of cantaloupe and other melons in the year 2000, most of this did not involve the types used in export (especially Galia for most of the EU, Charentais for France), so the FAO figure is not particularly useful. Since ATUT reports that its client growers produced 17% of the 1,992 MT exported from the 1999/2000 season on 351 feddans of land, and they presumably got higher exportable yields using newer production systems, one can assume that there were no more than 2,065 feddans planted to Galia or Charentais melons, and probably as much as 20% less than that.

In the case of green beans, FAOSTAT reports that there were 19,348 hectares (46,067 feddans) harvested in Egypt in the year 1999. That same year, ATUT reported serving growers who controlled about 15,000 feddans (i.e., about 32.5%), but only 10,600 feddans (23% of the area) changed production systems under ATUT leadership. They in turn reportedly exported 16,400 MT of green beans, which was about 80% of total exports that year of 20,439 MT.

Re-capping this data on ATUT's second stage NTAE crop choices, Egypt exported 1,992 MT of melons during the 1999/2000 season, plus 20,439 MT of green beans. Here again, these numbers represent a small percentage of domestic production for that same product category, just 0.4% (1992 MT/56,000 MT) for melons and about 10.2% (20,439 MT/200,021 MT) for green beans.

In effect a third stage of ATUT assistance began last year, focusing on cut flowers. Private investments have been made to establish 71 new feddans of intensive cut flower production. Anecdotal evidence suggests that exports have now reached the $2.8 million level.

3.4 Small Farmer Participation

The degree of participation by small farmers in Egyptian horticulture as a whole is enormous. Assuming an average of 1-3 feddans/farmer, the 1.045 million feddans cultivated with fruits and vegetables would directly involve between 350,000 and 1 million small farmers. Since the cropping intensity for vegetables is at least 2, the latter figure is more likely than the former for any given agricultural year.

Yet the extent of participation by small farmers in *export-oriented* horticulture appears to be limited, even in traditional horticultutre crops. For the sake of argument, let's assume that virtually all of the exports of potatoes and citrus still come from small farms (not too likely, actually, given the increasing need for phytosanitary controls and good agricultural practices). If true, then--

- Based on the national yield of 9.86 MT/feddans for potatoes, year 2000 exports of 48,464 MT would imply a total of 4,915 feddans used (in effect) for the export market. If the typical small farmer cultivates 2 feddans of land, that would imply that perhaps as many as 2,458 farmers might have been involved.

- Based on the national yield of 7.56 MT/feddans for citrus, year 2000 exports of 86,456 MT imply a total of 11,436 feddans used (in effect) for the export market. Again using an average of 2 feddans per farmer, that would imply that 5,718 farmers might have been involved.

On the other hand, for the non-traditional horticultural export crops targeted by ATUT, small farmer participation has been even more limited. In the case of table grapes, for example, ATUT assisted 27 producers in 2000, and their collective production on 3,685 feddans accounted for 78% of all exports by Egypt. In the case of fresh strawberries, 15 producers were assisted, and their output on 835 feddans amounted to 96% of the country's exports. ATUT helped 18 melon producers, whose collective production on 351 feddans accounted for 17% of all exports. As far as green beans are concerned, assistance was given to 18 producers, whose output on 15,000 feddans amounted to 80% of Egyptian exports.

3.5 Organization of the Horticultural Industry

Various organizations operate within, support or affect the horticultural industry in Egypt. Since the most important one at this point in time is HEIA, it will be described in greater detail.

3.5.1 Horticultural Export Improvement Association (HEIA)

According to its brochure, HEIA was created in 1996 "to guarantee access to modern production technology and state-of-the-art post-harvest handling practices, while connecting the industry to market information that will allow the industry to reach its production, quality and marketing goals."

HEIA has defined as its mission: "to increase exports of fresh and processed produce through continuous improvement of quality production, marketing, policy advocacy, training and management aspects assuring Egypt's international quality reputation and raising agriculture labor force standards."

Although formed with considerable assis tance delivered through ATUT, HEIA is a member-driven private association. As of this writing, HEIA claims a membership of 155. Of these 121 are full members, 18 are associate members and there is 1 corporate member. According to its literature, HEIA membership can be disaggregated as follows: growers-40%; grower/exporters-33%; exporters-11%; suppliers-12% and service-providers-4%. HEIA members reportedlty grow and handle the vast majority of Egypt's fresh fruit and vegetable exports.

As often happens in the evolution of the NTAE subsector, the initial membership was composed of the larger, well-capitalized exporters and grower-shippers, but over time it has expanded to include smaller exporters, and more recently, some groups of small and medium growers. In terms of area planted, HEIA reports that 14% of its members cultivate less than 50 feddans; 45% plant 50-200 feddans; 11% cultivate 200-500 feddans; 13% plant 500-1000 feddans; and 17% cultivate more than 1000 feddans.

HEIA's stated objectives are to: (a) achieve sustained growth in horticultural exports; (b) widen Egypt's exporting base of horticultural products; (c) diversify export products and services; (4) improve the presence of Egyptian horticultural products abroad.

The HEIA service menu originally focused on: (1) networking assistance; (2) advocacy; (3) horticultural community development (which includes a gender program, establishment of a perishables terminal at Cairo Airport, and vocational education); and (4) information dissemination. New programs include a pilot technology transfer program that includes some important hands-on training for MALR extension agents at the farms of the larger HEIA members, as well as membership training and a nascent quality assurance service.

The associa tion has organized itself by commodity groupings, i.e., councils for table grapes, strawberries, melons, nurseries, green beans, and cut flowers. The councils frequently invite service providers and suppliers – whether or not they are HEIA members -- to their meetings. The objective is to collectively negotiate lower prices and improved quality for services and inputs. This approach has been successful in a number of instances: collective purchasing of cartons by the Cut Flower Council; importation of new varieties at lower prices by the Mango Council; collective buying of insecticides and fertilizers by other councils; and collective bargaining for freight rates with transportation.

3.5.2 Egyptian Agribusiness Association (EAGA)

EAGA seeks to provide a similar set of services to enhance the competitiveness of the food industry. Core founders are directly involved in the food processing business, but the membership also includes some service companies involved in packaging and shipping, and a few growers - that is, owners of large farms that are supplying food processing companies or are exporting fresh produce themselves right now. However, EAGA only has about 40 members so far, and the association has not yet initiated any significant, sustainable efforts to provide services to members or to recruit more members. EAGA appears to be relying on its own staff and ALEB technical advisors to get the association off the ground. As of this

writing, no direct donor funding has been obtained, which leaves EAGA at a significant disadvantage compared to Expo-Link and HEIA. This in turn militates against further integration of the fresh and processed segments of the Egyptian horticultural subsector.

3.5.3 Egyptian Seed Association (ESAS)

ESAS was formed in 1998 with APRP support to help achieve a more integrated and efficient, privately-led seed industry by representing, protecting and serving the interests of its members, which include seed companies, plant breeders, multiplication and production companies, distributors and traders.

ESAS was on the forefront of reasonably successful efforts to facilitate, accelerate and lower the cost of vegetable seed importation and registration, to guarantee Plant Breeders' Rights, to get the Seed Law of 1997 enacted, and to get Intellectual Property Rights legislation through the Parliament. The latter reportedly passed finally in May of 2002.

3.5.4 Other Relevant Entities

Other member-driven associations that provide less direct support to horticulture or that are just getting started include: Crop-Life Egypt, the Egyptian Association of Traders of Seeds and Agricultural Pesticides (EATSAP), and the Egyptian Cold Chain Association (ECCA).

The most relevant GOE-supported entities include the Agricultural Commodity Council, which provide a useful forum for public-private dialogue, and Expo-Link, which provides trade information, trade statistics, representational services at trade fairs, and some generic promotion of Egypt as an exporter of agricultural products.

4. INTERVIEW RESULTS

In order to obtain a representative set of opinions regarding the impact of APRP-supported policy reforms on the horticultural sector, about 50 interviews (counting multiple participants separately) were carried out by the assessment team, ranging as far north as Alexandria and as far south as Luxor. Interviewees included: (a) small, medium and large farmers; (b) medium and larger processors and exporters; (c) suppliers of inputs such as seeds and agrochemicals; (d) suppliers of services such as technical assistance, training, cold storage, refrigerated transport, customs clearance, freight forwarding, air and sea transport; (e) development projects; (f) government agencies; and (h) associations. A detailed list is provided in Annex Two.

4.1 General Observations

The assessment team noted that:

- Responses varied depending on the location and role of the person interviewed and their degree of familiarity with relevant development programs in Egypt
- Not surprisingly, those who worked out of Cairo were more familiar with APRP, ATUT and ALEB than those whose base of operations was farther away
- Respondents whose main activity was closer to farming tended to know more about ATUT, whereas those whose main activity was processing tended to know more about ALEB and those involved in exporting tended to know more about APRP
- Individuals who had been consulted in the definition of APRP benchmarks tended to know more about progress indicators and tended to give APRP more credit
- Relatively more credit was given to donor-supported activities than GOE-supported activities
- Respondents were sometimes unclear about which donor-supported project had taken the lead in any given activity or intervention

4.2 Positive Responses

Respondents most often cited technical assistance and training in production, post-harvest handling and to a lesser extent marketing as a positive contribution from USAID-supported projects in the horticultural area. Where attribution for direct technical assistance was made, it was most often given to ATUT rather than APRP.

It should be noted that a separately done status assessment (Dale, 2001) and a later impact assessment (Brinkerhoff et al., 2002) both found significant progress and recognition for APRP-supported work in market-oriented, demand-driven approaches to horticultural technology transfer that were pilot tested in Ismaileya, Luxor, Giza, Beni Suef and Beheira. These studies also report that in collaboration with MALR and HEIA, APRP made good progress in these areas at improving export infrastructure such as packing houses and cooling

units, at perfecting model arrangements for contract farming, and at facilitating produce sourcing/marketing arrangements between groups of small farmers and traders or exporters.

Transport issues were the second area of intervention most often cited by interviewees. Obtaining approval for and moving forward with the construction of the airport cold store was the most common example. Increased availability of reefer containers and generator sets was also mentioned, although there were still complaints about cost and availability. Reduced dwell time for reefer containers was mentioned by some respondents, but was generally not considered very significant. Dwell time seems to affect incoming more than outgoing containers, and apparently long dwell times often reflect either a conscious choice of the interested party to leave the container in port as free storage or the importer's inability to get documentation and bank guarantees lined up. Respondents tended to give APRP some of the credit for these changes, but usually mentioned HEIA or ATUT first.

The emergence of private agribusiness associations, especially HEIA but also ESAS, was also cited as a positive result of USAID assistance, with due recognition of private sector impetus as well. Those who commented on the service menu tended to note that the associations were relatively young and therefore not yet as helpful as they could be.

Finally, some respondents noted that GOE-supported and connected entities, especially Expo-Link and the Agricultural Commodity Council, were also making a good contribution to agricultural and horticultural export development, particularly because of their usefulness in fomenting dialogue between the private sector and governmental agencies and decision-makers.

4.3 Negative Responses

The most common negative response concerned customs rules and administration, which were seen as a drag in terms of time, cost, red tape and uncertainty, both as regards the import of necessary inputs and equipment and the export of final product. One respondent argued that the system was "set up to fail" because it provides incentives for officials and the customs service as a whole to maximize both legally sanctioned and other rents, all without any administrative rules and regulations to guide the process and make it transparent.

Customs duties were sometimes cited as well, especially the persistence of high tariffs on new trucks and tires used to transport goods destined for export. In the view of some, this contributes to a high cost structure that forces Egyptian truckers to overload the roads and also provides an opening for Jordanian and Syrian truckers to undercut Egyptian carriers on back-hauls made once they have dropped off an incoming shipment of goods.

Many respondents felt that the Egyptian cost structure for horticulture is still uncompetitive in general when inputs, transaction costs, domestic and international logistics, and interest rates are all factored into the equation.

Speaking more generally, various respondents were of the opinion that the GOE does not help the horticultural subsector as much as competing countries like Morocco, Jordan, and Chile, all of which have relaxed restrictions and/or provided meaningful incentives relating to temporary importation, corporate farming, duty drawback, export subsidies, and investment.

5. GENERAL FINDINGS

Combining the results of the data analysis, literature review and field interviews, the assessment team came up with this set of findings concerning export horticulture in Egypt and APRP's involvement with this subsector:

1) **Horticulture in Egypt is an activity of great importance both to economic and agricultural sector growth because it utilizes a significant and increasing portion of arable land, provides employment to millions of Egyptians, offers considerable room for expansion in both export and domestic markets, and can generate substantial foreign exchange and income** .

2) The advantages of horticulture include a generally **higher return to land, to water and to labor, as well as greater opportunities for differentiation and value-added than field crops.**

3) Despite these widely recognized benefits, **APRP did not give horticulture as much priority** as other subsectors such as cotton, rice, and seeds, because the policy environment for the latter items was perceived as more highly distorted and therefore more important to address in APRP's early years.

4) As a result, **APRP never had an explicit strategy for horticulture** in general, much less horticultural export development.

5) Nevertheless, **over time an implicit strategy did emerge** from a serious of analyses, stakeholder meetings and pilot interventions.

6) While **there were no benchmarks that specifically targeted export horticulture,** four of them did mention fruits and vegetables.

7) **APRP's implicit strategy for horticultural subsector development was evident** in a total of 9 benchmarks of moderate relevance, plus another 12 that had some potential impact on horticulture.

8) APRP **interventions relating to the 21 relevant benchmarks were virtually all of a cross-cutting nature**, not specific to any particular horticultural crop, which left out potentially important interventions needed by specific supply chains such as citrus, potatoes and green beans.

9) Consistent with APRP's overall approach to policy reform, the **relevant interventions concentrated on relieving perceived constraints** rather than on creating opportunities, which left out desirable activities relating to preserving or enhancing market access.

10) Most **APRP interventions of relevance to horticulture aimed at the efficiency of input markets rather than output markets**.

11) The **21 relevant benchmarks were associated with 35 verification indicators**, two-thirds of which were accomplished on time and three-fourths were accomplished either on time or within a year after the specified deadline.

12) Among the 21, the **benchmarks that were accomplished or exceeded** included:

- Refrigerated Containers (IIIA1)
- Commodity Export Associations and Orgs (IIID2)
- Pesticide and Pesticide Company Licensing (IIID7)
- Research and Extension Rationalization (IVD4)
- Farm Production Statistics (IVD7)
- Sea Freight Transport (IVD8)
- Vegetable Seed Registration (IVD10)
- Horticultural Modernization (IVD12)
- Transparency in Trade Data and Agreements (VD4)
- Public-Private Partnership to Promote Exports (VD6)
- Vegetable Seed "Variety Screening" (VD8)
- Transparency in (Trade) Decision-Making (VD10)

13) Taken together, achievement of **the above benchmarks produced certain noteworthy results:**

- For the first time, licensing of private operators to act as shipping agents or run storage, warehouse, container handling facilities

- For the first time, creation and use of templates for contract farming

- Simplified entry of refrigerated containers, including use of bank guarantees for temporary use of reefers

- Promulgation of regulations regarding Plant Breeders' Rights

- Coordinated inspections of incoming containers at the port

- Updating of pesticide legislation and coordinated protocols for registration and labeling

- Promising pilot tests of new approaches to technology transfer

- GOE affirmation and ratification of the role of private associations in export promotion

- Establishment and funding of the Agricultural Advisory Council (including subcommittees for horticultural crops)

- Establishment of a new and improved system for farm income statistics

- Approval to build a new cold storage facility at Cairo Airport

- Simplification and shortening of the process for importing new vegetable seeds

- Introduction of new fruit and tree crop planting materials

- Improved dissemination of trade statistics over the Internet

Official GOE support for transparency in trade data, trade agreements and export-related rule-making.

14) These accomplishments and results notwithstanding, **APRP has not yet had a measurable aggregate impact on Egypt's horticultural exports for several reasons:** (a) a late start in this area; (b) lack of an explicit strategy; and (c) not approaching horticulture as a vertical supply chain.

15) Yet APRP work in the seed, technology transfer, transport, institutional development and trade promotion areas was certainly helpful, and is perceived positively by many people interviewed, **so it is likely that some delayed impacts on horticultural exports will become evident in future years.** They will not, however, be easily attributable to APRP because of collaboration, with other development projects, with HEIA and with other associations.

6. RECOMMENDATIONS

Building on the experiences described above, while taking into account best practices seen in other successful horticultural development programs around the world, the assessment team concluded the following:

- Policy interventions should not be seen as the cause of growth in horticultural exports, but rather a **contributing factor to growth organically driven by private enterprise.**

- The role of policy reform in horticulture should not be seen as just the **alleviation of constraints but also the creation of new opportunities**, e.g. through quicker introduction of new technology and enhanced market access

- If there is to be a follow-on activity to APRP (i.e., APRP II or another name), it should definitely **include horticulture** because of the importance of the subsector to Egyptian agriculture in general, and to rural employment and incomes in particular, and also because there is still much to be done.

- The scope of a follow-on activity, however, should be on **the entire horticulture subsector,** not just export horticulture, because (a) exports are likely to remain a fairly small percentage of overall volume marketed, (b) upgrading domestic production and marketing solidifies the foundation for exporting, and (c) fresh produce feeds into and complements processed produce.

- "APRP II" should concentrate on **improving the policy and enabling environment** for productivity and competitiveness while recognizing ties to technology and market development.

- "APRP II" should start its activities in this subsector by catalyzing and facilitating the formulation of a **long-range strategy and plan** for horticultural subsector development (with HEIA, ESAS, EAGA, the implementers of ALEB and AERI, and all other stakeholders).

- The **principal challenges** facing Egyptian horticulture should be viewed as:

  - Recovering momentum in traditional horticultural exports
  - Continuing expansion in volume, value and diversity of non-traditional exports
  - Better integrating the fresh and processed segments of the subsector
  - Increasing value-added from both domestic and export horticulture through innovations in processes, products, and markets
  - Enhancing small farmer involvement and net income derived from horticulture

- In addition to addressing those challenges, an APRP follow-on activity should have as its **objectives:**

  - Achieving greater preparedness for future phytosanitary crises
  - Developing new export crops and products
  - Developing new packaging and presentation

- Stimulating new export deals, including related investment promotion

- "APRP II" should strive to address **both horizontal cross-cutting issues** and sets of issues that may be critical to a **particular vertical supply chain**

- Challenges of particular importance to horticultural subsector development in Egypt include the following:

- Continued improvement in the tenor, content and frequency of trade-related policy dialogue between cognizant public entities and private organizations

- Maintenance of a realistic real exchange rate

- Continued simplification and greater transparency in customs administration

- Bio-engineering and plant breeding aimed at crop protection, yield enhancement, shipping/holding/processing traits

- Further development and replication of demand-driven, market-sensitive models for technology generation and transfer

- Final enactment and full implementation of the Seed Law of 1997, hopefully leading to greater willingness by foreign seed suppliers to make the latest cultivars for crops like strawberries, grapes and cut flowers available promptly to Egyptian growers

- Increased attention to Good Agricultural Practices (especially Integrated Pest Management and Food Safety) to protect Egyptian natural resources and consumers and get ready to export

- Improvements in the use of grades and standards, especially sorting by size, quality and condition

- Attention to post-harvest practices that reduce losses and increase net returns to farmers and handlers

- Improvements in inland transport service, equipment, availability and cost, especially for the perishable crops within the cold chain.

- Removal of disincentives to use domestic truckers for carrying produce destined for export

- Innovations in marketing institutions and practices that improve price discovery and transparency, even out supply peaks, lower price volatility, reduce marketing losses, increase leverage of smallholders and their groups

- Greater frequency, accuracy and diffusion of relevant statistics and other information on matters of production, marketing and trade

- Actual elimination of tariffs on all intermediate goods and services needed for horticultural exporting

- Parity in General Sales Tax treatment for produce destined for export and for the domestic market

- "APRP II" should **prioritize interventions in terms of potential impacts over time**, based on: **incremental value-added for changes that mainly concern domestically-**oriented horticulture and **incremental export volume and value for changes that mainly concern export-oriented horticulture**

- Finally, since **horticultural industry growth** depends on new technologies, products, and markets, it **is a long-term endeavor**. As such it requires long-term commitment by both private and public sector, including donors like USAID.

ANNEXES

Annex 1:

Summary of APRP Benchmarks and Indicators Relevant to Horticultural Exports versus Degree of Accomplishment as Reported by the MVE Unit

Tranche III

A. Prices, Markets and Trade

A1. Refrigerated Containers

Benchmark: "The GOE will adopt and implement simplified procedures to facilitate entry of refrigerated containers (reefers) for use in exports of fruits and vegetables".

Verification Indicator: "The GOE will publish procedures through appropriate channels that enable and inform exporters of fruits and vegetables to bring refrigerated containers on a duty free basis up to their farms, factories or packing sheds for direct loading and export".

Accomplishment: According to the July 1999 MVE Verification Report, this benchmark was accomplished. Under Law 1 of 1998 the MTS issued Decree 30, which covers licensing of private companies as shipping agents, owners and operators of storage and warehouse activities, and as owners and operators of container handling facilities. MTS also issued Decree 31, which covers fees charged for licenses for bulk goods and containers. Exporters and others have learned of the decrees in various ways, including a workshop on transport and logistical constraints held in May of 1999 and publication in the Egyptian Export Promotion Center (EEPC) magazine. An MVE survey confirmed awareness of the policy change and decrees.

D. Agricultural Sector Support Services

D1. Contract Farming

Benchmark: "The GOE will adopt and implement a policy for contract farming to protect both farmers and contracting firms".

Verification Indicators:

D1.1 "GOE/MALR decree or written policy document to define the contents of a model contract to set standards for contract farming".

D1.2 "Evidence of public awareness based on survey of relevant contract farmers and contracting firms".

Accomplishment: According to the MVE Verification Report dated July 1999, this benchmark was partially accomplished. After soliciting input and sample contracts from prominent firms already involved in contract farming, RDI's lawyer had them translated, then reviewed by RDI and PMU staff, after which modifications were to be made. They were then to be checked again with focus groups, modified as necessary and submitted to HE the Minister. This benchmark was not revisited in later MVE reports.

D2. Commodity Export Associations and Organizations

Benchmark: "The GOE (MoTS) will revise its policy to work with private trade and industry associations in addition to private firms. This will channel GOE support and information to private trade or commodity associations and organizations to promote Egyptian exports.

Verification Indicators:

D2.1 "A clear policy statement in the form of a decree from MoTS defining its role in supporting the export promotion efforts of private business associations, offering public sector support and coordinating its activities with those of the private associations".

D2.2 "Evidence of public awareness of the policy based on survey of relevant groups".

Accomplishment: According to the July 1999 MVE Verification Report, this benchmark was accomplished. After HE the Minister of Trade and Supply approved a letter drafted by the EEPC Director proposing the policy change, EEPC prepared a work program aimed at gathering market information about COMESA countries, North America and the CIS countries, and then stimulating exports of a wide variety of products (many based on agriculture). HE the Minister approved the program and budget, then instructed EEPC to proceed. EEPC did so.

D4. Plant Breeders' Rights

Benchmark: "The GOE will issue: 1) regulations and procedures on Plant Breeders' Rights in accord with relevant Uniform Performance of Variety (UPOV) convention; and 2) regulations for exclusive release of new seed varieties and inbred lines to private companies and cooperatives. These regulations will include a competitive bidding process with safeguards to ensure that one firm cannot gain access to a large percentage of new seed varieties".

Verification Indicators:

D4.1 "Set of regulations in the form of a decree or written policy document on plant breeders' rights".

D4.2 "Set of regulations in the form of a decree or written policy document providing for exclusive release of seed varieties from the government to the private sector".

D4.3 "Evidence of public awareness based on survey of relevant groups".

Accomplishment: Since this benchmark had multiple indicators, accomplishment was judged separately in the July 1999 MVE Verification Report.

With respect to D4.1, the MALR did develop three articles to establish breeders' rights within an amendment to Agricultural Law 53. The articles were submitted to the People's Assembly. The Central Administration for Seed Certification then prepared a draft decree containing corresponding regulations, which were to be issued officially once the amendment itself passed the Assembly. That draft was sent to the International Union for the Protection

of New Varieties (UPOV), which suggested changes to conform to UPOV, and CASC proceeded to change the draft regulations. CASC also established and staffed a Directorate for Plant Variety Protection. Based on this progress, the indicator was deemed fully accomplished (although the Seed Law itself was not passed by the cut-off date and in fact is just now coming out of Committee)

With respect to D4.2, in March of 1999 RDI contracted a well-known international consultant to help develop draft regulations for the release of new seed varieties developed by ARC. After due consultation with stakeholders, a draft document was prepared. Then a formal working group was established to finalize the document. Final changes included a competitive bidding process designed to ensure that one firm could not control a large percentage of new seed varieties. In mid-1999 the rules were submitted to the ARC and Undersecretary of Agriculture for approval, which later was obtained. MVE judged categorized this indicator as "partially accomplished".

With respect to D4.3, the GOE and other interested entities held a number of events designed to heighten awareness of issues surrounding Plant Breeders' Rights and Seed Variety Release, of proposed policy changes and of draft regulations. Based on those actions, MVE classified this indicator as fully accomplished.

D5. Draft Seed Law of 1997 Enactment

Benchmark: "The People's Assembly will enact the draft Seed Law of 1997".

Verification Indicator: "Ratification of the Seed Law by the People's Assembly"

Accomplishment: No progress as of the cut-off date for verification

D7. Pesticide and Pesticide Company Licensing

Benchmark: "The GOE will revise and reissue open and transparent regulations to register pesticides and will issue regulations to license pesticide companies and applicators".

Verification Indicators:

D7.1 "A complete review of the laws and regulations governing the pesticide industry. This review will include identification of the current weaknesses in the system of registering pesticides, especially the problem of permitting decrees to override decisions made on the basis of international risk assessment or scientific fundamentals, and proposals for addressing those weaknesses".

D7.2 "MALR will develop written consensus with the private sector on an outline of regulations on pesticide registration".

D7.3 "MALR will develop written consensus with the private sector on an outline of licensing procedures for applicators and companies".

Accomplishments: Under the leadership of the Director of the Residue Analysis Lab for Pesticides and Heavy Metals, new regulations were drafted and vetted with stakeholders from the public and private sector, resulting in a general consensus. RDI then reviewed and

finalized the draft, which included summaries of past decrees, an analysis if the new ministerial decree No. 663 of 1998, models to be used as guidelines for registration, licensing and analysis, and a new manual for the same. The July 1999 MVE Verification Report reported that this benchmark had been accomplished.

D8. Support of Private Sector Research and Extension

Benchmark: "The MALR will implement a phased plan for support and/or transfer of specified research and extension activities to the private sector. The plan will include at least: a) specification of the research and extension functions which the public sector will enable the private sector to provide in one pilot governorate; b) administrative and management structures and rules to ensure MALR inspection, certification, licensing and quality control for services and information offered by the private sector.

Verification Indicators

D8.1 "A phased plan approved by the Minister, including the elements specified in the benchmark".

D8.2 "Initiate implementation of the plan in at least one pilot governorate".

Accomplishments: The GOE agreed to proceed with a pilot test in Ismailia Governorate, with Gharbia as a back-up. With assistance from RDI staff, MALR officials met with officials and private sector representatives to discuss key issues such as the role of private extension services, cost recove ry, traditional vs. export crops, coordination and information exchange, and specialization by extension officers. A subcommittee was formed to prepare a plan. According to the July 1999 MVE Verification Report of July 1999, this benchmark was "partially accomplished".

Tranche IV

D. Agricultural Sector Support Services

D.1 Agribusiness Advisory Councils

Benchmark: "GOE will ensure that the private sector membership on the agricultural/agribusiness advisory councils comes from private sector industry/commodity groups".

Verification Indicator(s):

D1.1 "The GOE (MOTS) issues a ministerial decree outlining the structure, membership, and functions of the Agricultural Advisory Councils and their relationship with private industry unions". (12/2000)

D1.2 "Provide evidence of the activation of one or more of the Agricultural Advisory Councils. (12/2001)"

Accomplishments: The March 2001 MVE Verification Report reported mixed results for this benchmark. Indicator D1.1 was deemed only partially accomplished because measures taken did not go far enough. Although an Agricultural Commodity Council was established in late 2000 through a policy letter from HE the Minister, it left open the issue of whether private individuals or associations should be members, and how they should be chosen.

With respect to indicator D1.2, which called for evidence of the activation of one or more AAC's, the GOE had "exceeded full accomplishment" because subcommittees had been set up and become operational for: rice, seed, and fiber; transportation; peanuts and oil; flowers and ornamental and shade plants; fruits and vegetables; and animal and fish protein.

D.2 Airfreight Transport

Benchmark: "To increase the volume and value of Egyptian exports of agribusiness products, the GOE will introduce appropriate improvements in regulations and procedures affecting Egyptian international airports that will enhance competition in the provision of air cargo-handling services at Egyptian airports".

Verification Indicator: "Civil Aviation Authority (CAA) will modify regulations and/or procedures to enable international airlines operating at international airports in Egypt, in addition to Egypt Air, to provide competitively priced air cargo-handling (loading and unloading) equipment and services to other airlines on a commercial basis". (12/2000)

Accomplishment: "The MVE Verification Report dated March of 2001 reported no progress against this benchmark".

D.3 Airport Terminal Cold Storage

Benchmark: "GOE will allow privately operated cold storage services using free market pricing to operate within the Customs area at all international airports in Egypt".

Verification Indicator: "GOE (CAA) regulations allowing private investors to build, or lease, or operate, cold storage facilities within the Customs area at Cairo Airport". (12/2000)

Accomplishment: Although in early 2000 the Ministers of Transportation and Foreign Trade, as well as the Chairman of CAA, gave approval to HEIA to select a lot and build a facility, and then a contract was signed by the Minister in May of 2000, CAA later issued a tender for construction which seemed to invalidate the contract. Then another contract was negotiation and signed in October of 2000, and the design work began with ATUT project funding. Under the latter "BOT" type contract, HEIA was to build the facility, operate it for 15 years, then transfer it back to CAA. However, a close analysis of the contract by MVE revealed that HEIA had insufficient contractual protection against CAA taking it over again, and there were also other issues such as how to set rates and ensure equal access, so the March 2001 MVE Verification Report categorized this benchmark as "partially accomplished".

D.4 Research and Extension Rationalization

Benchmark : "The GOE (MALR) will develop and approve a new policy mandating extension officers to undertake tasks that respond directly to the needs of stakeholders in the agricultural production, marketing and processing economy".

Verification Indicator:

D4.1 "Implementation of the plan for a pilot program in research and extension reform in the Governorate of Ismaileya. Development and initial implementation of a second pilot plan in Upper Egypt (Luxor/Qena)". (12/2000)

D4.2 "Initial implementation of the successful elements of the pilot activity, adapted to local circumstances, in three other representative governorates". (12/2001)

Accomplishment: After MVE staff made visits to Ismaileya and Qena to confirm that the pilot programs had been implemented in the first and initiate din the second, the Verification Report issued in March of 2001 characterized the first indicator as "accomplished". Under Phase II, APRP began initial implementation of the successful elements of the previous pilot activities in Giza, Beni Suef, and Beheira. Since work had been initiated in all three governorates in cooperation with HEIA, the second indicator was also deemed to have been "accomplished".

D.7 Farm Production Statistics

Benchmark: "The GOE (MALR) will collect, manage and distribute agricultural data and information on farm production and income at the farm and national levels to meet the private and public sector needs".

Verification Indicators:

D7.1 "The GOE (MALR) approves and establishes a policy on procedures for collecting agricultural production and income data at the farm level". (12/2000)

D7.2 "Agricultural production and farm-level income statistics based on new procedures are prepared for representative villages and administrative districts". (12/2001)

Accomplishments: According to the March 2001 MVE Verification Report, the first indicator of this benchmark was accomplished as planned by 12/31/2000. MVE also reported that the GOE had "exceeded full accomplishment" against the second indicator by the target date of 12/31/01.

D.8 Sea Freight Transport

Benchmark: "The GOE will coordinate import inspection procedures for refrigerated foodstuffs (radiation, GOEIC, agriculture, health and veterinary)".

Verification Indicators:

D8.1 "The GOE (MOH, MALR, MOTS, and MOSR) will establish a policy to coordinate import inspections of refrigerated foodstuffs (radiation, health, veterinary, agriculture and GOEIC) at all Egyptian ports (sea, land and air) by 12/2000".

D8.2 "Average dwell time at Mediterranean Sea ports for refrigerated containers is reduced to fifteen days for the 9/2000-9/2001 period based on a survey of private sector traders". (12/2001)

Accomplishment: According to the March 2001 MVE Verification Report, the GOE "exceeded full accomplishment" against the first indicator. With respect to the second, since MVE research confirmed that the dwell time, and in particular the time to receive clearance, for refrigerated containers was less than 15 days at both Alexandria and Port Said for the period September, 2000 through September, 2001, it was also categorized as accomplished.

D.9 Truck Transport Regulations

Benchmark: "The GOE will improve exports of horticultural products through improving the capacity of local refrigerated trucking industry by reducing tariff on imported refrigerated trucking equipment".

Verification Indicators:

D9.1 "GOE regulations reducing the tariff to 5% on imports of new refrigerated trucking equipment. This includes trucks, trailers, and compressors". (12/2000)

D9.2. "Evidence that private trucking companies and exporters of agricultural products in Egypt are aware of the change in the tariff". (12/2000)

Accomplishments: The March 2001 MVE Verification Report considered that the reduction of tariffs to 5% on imports of new refrigerated trucking equipment--i.e. the first indicator--had been partially accomplished, but that there had been "no progress" on the second indicator--awareness of change--since the tariff had not actually been changed by the end of 2000.

D.10 Vegetable Seeds

Benchmark: "The GOE will simplify its requirements for registering new varieties of vegetable seeds and abolish registration requirements for the import and trade of vegetable seeds already registered or protected in countries belonging to the Organization for Economic Cooperation and Development (OECD)".

Verification Indicators:

D10.1 "The GOE (MALR) approves a policy to drop the requirement for VCU testing of vegetables. (12/2000)

D10.2. "The GOE (MALR) approves a policy that permits vegetable varieties registered or protected in OECD countries to be imported and traded in Egypt without retesting". (12/2000)

D10.3. "Confirmation from private vegetable seed companies that they are aware of these policy changes and that at least one shipment of vegetable seeds has been imported for commercial sale under these new policies". (12/2001)

Accomplishment: The GOE's role in the seed registration and sale process includes phytosanitary control and testing. The Variety Registration Committee (VRC) of MALR is responsible for plant variety evaluation and registration. Companies that import or develop new varieties must obtain registration from the GOE before they can market these seeds in Egypt. Prior to actions taken under this benchmark, registration was not granted until complicated tests are completed, sometimes requiring up to three years. The Horticultural Research Institute (HRI) conducts these tests and charges a fee for doing so. HRI tests generally do not distinguish between Value for Cultivation and Utilization (VCU) and Distinctness, Uniformity and Stability (DUS). The proposed reforms focused only on streamlining the variety registration process.

In essence the seed industry argued that Value for Cultivation and Utilization testing for vegetable seeds was not necessary, because yields and maturity are less important than other qualities such as color, shape and taste. Industry representatives also argued that testing for Distinctness, Uniformity and Stability (DUS) was not needed for imported varieties that had already been registered in OECD countries.

According to the March 2001 MVE Verification Report, the first two indicators were deemed "partially accomplished" by the target date of 12/31/2000. While no formal decree was

passed before that date, several policy changes were embodied in working documents signed by the cognizant authorities:

> For imported varieties registered in OCED member countries (except for strategic crops) no re-registration is done. On the other hand VCU tests of one-year duration have to be carried out to determine the suitability of the variety for Egypt and its resistance to pests and diseases

> DUS testing will be done only for new fruit and vegetable varieties bred in Egypt. For OECD-registered vegetable varieties, no new DUS test will be required in Egypt; instead DUS data from the original country must be submitted and only a one-season test for resistance to pests and adaptation tests are done.

> According to the agreed-upon procedures of the VRC, VCU tests for horticultural crops are not performed, but instead the one-season test above is conducted.

After the decisions above were actually formalized in May of 2001, several actual seed importations and subsequent testing were initiated so the third indicator was also categorized as accomplished.

D.12 Horticultural Modernization

Benchmark: "The GOE (MALR) will establish a policy for the renewal of the stock of fruit and other tree crop planting materials in Egypt".

Verification Indicator:

D12.1 "Ministerial decree to encourage the importation and testing of new fruit and vegetable varieties from around the world". (12/2000).

D12.2 "GOE approves a policy and plan to ensure private sector participation in multiplication, distribution, and importation and quality control procedures". (12/2001)

Accomplishment: Based on a series of memos and actions undertaken by the MALR, culminating in a budgetary request by HE the Minister to begin a fruit cultivar import and testing program, the March 2001 MVE Verification Report concluded that the GOE had "exceeded full accomplishment" with respect to the first indicator. Then, in addition to the work done earlier, in 2001 ARC officials and researchers continued to meet with farmers, nursery operators and final exporters to: (a) finalize the selection of varieties to be imported for testing; (b) determine which nurseries will be included in the program; and (c) determine the sharing of responsibilities within the ARC for the different aspects of the program. Moreover, some exporters traveled abroad to observe the varieties in demand in their markets, and their observations were gathered during the development of the importation program. The ARC used its resources to purchase and set up greenhouses and other equipment for isolation testing of imported varieties for diseases and pests. APRP worked with the Ministry and ARC to organize a system introducing new fruit varieties tested by the Horticultural Research Institute, with the involvement of the Plant Pathology Institute, the Plant Protection Institute, and other entities in the Ministry. Key elements included:

Importation of citrus, grape, mango and olive root stock for testing by the ARC's specialized institutes

- Distribution to nurseries that are qualified to multiply and distribute seedlings
- Distribution to include only varieties that are suitable to Egyptian conditions, including soil, climate, and the needs of farmers and exporters
- Monitoring and inspection of multiplication and distribution to ensure the quality and the true-to-type aspects of these varieties
- A training course for the MALR staff on control and inspection of nurseries and their staff to safeguard product/seedling quality

Based on all of the above, MVE characterized the second indicator as "accomplished" as well.

D.13 Registration Procedures for Pesticides

Benchmark: "The GOE (MALR and Ministry of Health) will establish coordinated protocols for registration and labeling of pesticides".

Verification Indicator: "Joint decree or other publication by the GOE (MALR and MOH) that harmonizes registration and licensing of pesticides by 12/2000".

Accomplishment: "According to the March 2001 MVE Verification Report, the GOE decreed that all pesticides registered with the US EPA can be registered in Egypt. Then APRP sponsored a workshop in April, 2000 to increase public awareness of decree 663 of 1998, which addresses registration procedures for pesticides. The workshop recommended working toward coordinated protocols. HE Dr. Wally has sent a letter to the Minister of Health, supporting the notion of coordinated protocols and asking the Minister to join in setting up a committee to accomplish the work. Since no reply had been received by the target date, MVE characterized this benchmark as "partially accomplished".

Tranche V

D. Agriculture Sector Support Services

D.4 Transparency in Trade Data and Trade Agreements

Benchmark: "The GOE (MEFT) will establish a policy to publish Egypt's trade agreements and disseminate monthly bulletins of disaggregated, product-by-product trade data".

Verification Indicator(s):

D4.1 "A policy statement from the MEFT requiring the publication of foreign agricultural trade agreements and amendments in Arabic and English".

D4.2 "A policy statement from the MEFT requiring the issuance of monthly bulletins with disaggregated, product-by-product bilateral and multilateral agricultural trade statistics".

D4.3 "Evidence that the agricultural trade agreements and monthly statistical bulletins are published by internet and on paper and are available to all who request them".

Accomplishments: As far as indicators D4.1 & D4.2 are concerned, the required policies were developed by the Office of the Minister and have been approved by HE the Minister of Foreign Trade. With respect to D4.3, the format for the required statistics was developed and the data gathered; one trade agreement summary was completed, and MVE understood that the others will be prepared. Since all of the required information would be published before the target date of December 31, 2001, MVE categorized all three indicators and the overall benchmark as "accomplished".

D.6 Public-Private Partnership to Promote Exports

Benchmark: "The GOE (MEFT) will direct funds to private associations to help finance activities related to the development of Egypt's competitiveness in exports".

Verification Indicator(s): "Ministerial decree committing funding to the ACC and other Commodity Councils for export promotion".

Accomplishment: Since Article one of Ministerial Decree 910/2001, dated December 6, 2001, committed the Foreign Trade Sector (FTS) of MFT to provide funds to the Commodity Councils for the purpose of export promotion, MVE categorized this benchmark as "accomplished".

D.8 Vegetable Seed Variety "Screening"

Benchmark: "The GOE will permit the import of sample vegetable seeds for multi-location trials under farmers' conditions".

Verification Indicators:

D8.1. "An official policy statement that permits hybrid vegetable variety screening by seed companies by permitting the import of sample seeds for multi-location trials under farmers' conditions".

D8.2. "Confirmation that private seed company representatives are aware of the policy change to allow the import of sample seeds for screening purposes".

Accomplishment: Since HE the Minister signed an appropriate policy statement, and private seed companies began acting on it, this benchmark was categorized as "accomplished".

D.10 Transparency in Decision-Making

Benchmark: "The GOE (MEFT) will issue a decree that requires the discussion of foreign trade draft regulations with stakeholders before the issuance of the regulation".

Verification Indicator(s):

D10.1. "A ministerial decree requiring that, before issuance of new regulations, a public meeting be held for discussion of any draft regulation affecting exports and export business. Following the public meeting, exporters will have a one-week period for written comment".

D.10.2. "Evidence that the procedures established in the decree have been implemented (e.g., public meetings, public comments)".

Accomplishment: Ministerial Decree 910/2001, dated December 6, 2001, requires discussion in a public meeting of any draft regulation affecting exports and export business before issuance of new regulations. The decree requires the FTS to present any such draft regulations to the Commodity Councils. The Councils are then responsible to hold public meetings for exporters. Written opinions should be given within one week. The head of FTS then reports these opinions to the Minister. At a meeting on December 12, 2001, called by the ACC, there was discussion of proposed reforms to the duty drawback and tax rebate regulations. In the previous meeting, HE the Minister made it known that he was preparing a decree to remedy outstanding problems with the duty drawback system and that he would provide a draft of this decree for discussion, comment, and feedback by the stakeholders. Participants in the meeting on December 12 discussed the draft decree and comments were to be provided to the Ministry. Based on these events, MVE categorized this benchmark as "accomplished".

Annex 2:

Representative* List of People Interviewed

Hussein El-Aguizy, Chairman, El-Aguizy International Company for Economic Development S.A.E.

Hesham El Sofany, Deputy General Manager, El-Aguizy International Company

Ashraf Fouad, Planning and Follow-up Manager, El-Aguizy International Company

Sherif El-Beltagy, President, Belco Import-Export Dealers

Samy Ibrahim, Partner and General Manager, Centre Egyptien de Legumes e de Fruits

Sherif El-Maghrabi, Chairman, MAFA

Antoine Chaer, President, CHARIPAK, C.E.R. (A.N. Chaer)

Eng. Sherif El Kerdany, Deputy General Manager, ESAS

Hani El-Kolaly, Executive Director, HEIA

Adel El-Hageen, Sales Manager, Hi-Pack

Mohamed Sabahy, Seed Certification Unit, MALR

Mohamed Yassin Abd El-Ghaffa, Seed Certification Unit, MALR

Dr. Abdraboh A. Ismail, Director of Field Crops Institute, ARC, MALR

Eng. Hesham El Sayed Badawy, Cooling Consultant and Director of Cold Chain Association

Dr. Adel El-Ghandour, Director, CENTECH

Alaa Diab, President, Modern Agriculture Company PICO

Nadia Niazi Mostafa, President, Nimos Engineering and Agricultural Development Company

Mahmoud Hamed, Marketing Manager, Nimos Engineering and Agricultural Development Company

Eng. Amr M. Osman, Business Development Manager, Dina for Agricultural Investments Company

Henrik Klinge, Executive Director, Dan Reefer S.A.E.

Samir El-Naggar, Executive Director, Naggar Shipping

Mirette Fouad, Branch Manager-Alexandria, Maersk Egypt

Ahmed Ezz El Din Kamel, Chairman and Managing Director, MISR Pioneer Seed Company S.A.E.

Dr. Conrad Fritsch, Team Leader, ATUT Project

Dr. Antonio Lizana, Post-harvest Expert, ATUT Project

Dennis Lesnick, Production Expert, ATUT Project

Yasser Essam, Transport Specialist, ATUT Project

Jerry Lewis, Country Director, ACDI-VOCA

Douglas Anderson, Agribusiness Specialist, ALEB Team, Abt Associates Inc.

Dr. Jane Gleason, Acting Chief of Party, APRP/RDI Team, DAI

Lawrence Kent, Economist, APRP/RDI Team, DAI

Richard Magnani, Agribusiness Specialist, APRP/RDI Team, DAI

Dr. Mohammed Zaki Gomaa, Seed Industry Specialist, APRP/RDI Team, DAI

Dr. Edgar Ariza-Nino, Agricultural Economist, APRP/RDI Team, DAI

Dr. Adel Mostafa, Agricultural Economist, APRP/MVE Team, Abt Associates Inc.

Dr. John Holtzman, Agricultural Economist, APRP/MVE Team, Abt Associates Inc

Dr. Gary Ender, Chief of Party, APRP/MVE Team, Abt Associates Inc.

* List does not include 15 NGOs and 12 small farmers interviewed in group setting in Luxor area